

**CNAS ANNUAL CONFERENCE**  
**Discussion between**  
**Secretary of the Air Force Deborah Lee James and**  
**Mr Elbridge Colby**  
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MR. COLBY: Welcome Secretary James and thank you very much for being here today. It's a delight and honor that you could join us for this important discussion.

Your colleague, the Air Force Chief of Staff, General Mark Welsh, recently said other nations were preparing to view space as battlefields, big battlefields. And we'd better be ready to fight there. We don't want to fight there, but we've got to be ready, because other people are clearly posturing themselves to be able to do that. And with that kind of background in mind, [inaudible] rank-based defense leader. CNAS Annual Report was in January. They're talking about that position. I wonder if you could maybe give us your thoughts on that pretty significant transition of our defense posture?

SECRETARY JAMES: Well, if I could just begin by thanking you, Bridge, and also thanking the entire CNAS team for putting on what I think is a spectacular conference. It's just a virtual who's who of everybody from this administration who has the important role to play, and what an important [inaudible] to the next administration. It's really, really key.

I also want to give a shout out to one of our favorite organizations that from our very own Lieutenant Colonel [inaudible] Bob, who's in the background. Where are you Bob? I won't [inaudible] of you. But as I was walking in, he said to me, I just want to thank you for one thing Madam Secretary. And I thought he was going to thank me for his promotion to Lt Colonel perhaps. But no, it was just [inaudible] at the CNAS. So well done to the [inaudible] who put this together. And you guys do great work with this General.

So, first of all, let me agree with one thing you just said there, Bridge. I think the space domain is one that's very much in transition. I'll say that generally. People used to say that it was a peaceful sanctuary. I'm not sure it was ever quite a peaceful sanctuary. But there is just no question, that in the last several decades, I will say, that space has really become contested and it's become congested. So there many, many more commercial enterprises. There are more countries that can

now reach space. And there are thousands and thousands of pieces of space debris, which in and of themselves, that too can be a danger.

And then, certainly, from the standpoint of the United States, we are particularly concerned, because we see that there are some countries around the world that are investing and testing in ways that are worrisome to us. And given the fact that today, everything that we do from a military prospective is enabled by space. So space is crucial to us from the military operations perspective. But it is also crucial to us just for our way of life, our modern way of life. Everything from transportation system to navigation to you've got go home via Uber. You'd better hope everything is going okay in space because so much of what we do is enabled.

And so, in the face of this changing environment and the space domain very much in transition, I can assure that the United States is not sitting on our hands, we are moving. And there's been a lot of momentum that has occurred just in the short two and a half years that I've been a direct observer on the scene in terms of strategy and budget and getting our heads around the fact that a future conflict on earth one day could extend to space. And we need to prepare, and we will become the [inaudible].

MR. COLBY: Well, clearly that's great to hear. And I think two items that I find particularly noteworthy on that is, one, the undersecretary of defense could probably -- the Undersecretary of Defense, Frank Kendall, said about a year ago or maybe a year and a half ago, that all the domains -- technological domains the US is active in, space is actually the most embattled, the most threatened from a military technological perspective when you look at 10 or 15 years.

And the other thing I saw, you know, is the -- I mean you hear different dollar figures, maybe five billion or eight billion or something [inaudible] budgets, but move towards space. You know, in a period of budgetary constraints. And that's [inaudible], right. And that suggests there's a real perception of threat and need for help.

One area of where I just kind of struggled to kind of get clarity, and maybe this is a [inaudible],

but as, you know, mentioned some of the potential adversaries, you know, [inaudible] conduct some kind of a test geosynchronous orbit. And the Russians just tested and antisatellite [inaudible] in the press. You know, we've made very clear, I think General Hymen and the 60 Minutes interview and elsewhere, [inaudible] we're very alive in space, we're staying.

So if it's so important and there's a plausible threat, what is our actual policy to respond to it after the case. You know, what's our formal declaratory policy? And not that that's everything, but I think it's important. And if there's some sort of well if this, you know, if it's kinetic this, if it's not then, that, maybe you can just help us understand. Because I do [inaudible] with my variable research assistant was reading about a year ago, and we weren't able to find a kind of crisp statement on that.

SECRETARY JAMES: well as you were just saying, you don't want to put everything out to the public domain because part of the terms is we have to have the credibility that you have assets that are able to respond and really defend yourself, and a potential adversary believe that. Then there has to be the will to actually do it and the process and procedure. But you don't want to necessarily put all of that in the public domain.

But I would say -- let me just offer a few thoughts on that. I think the first question that policy neighbors would need to ask themselves if something seemingly went wrong in this case, was to figure out was it really an attack. Maybe yes and maybe no. So you try to get as much intelligence this is where our SSA (Space Situational Awareness) knowing what's going on and so forth and other forms of intelligence. So was it really an attack or is it a matter of debris? Was it something else? And that would be, I think, question number one.

Question number two likely would be who did it? What's the attribution? Once again, SSA intelligence would be very important as you build the case as to what actually happened and who did it.

And then I would say number three, for something that is a potential attack on a US asset in space, a US Government asset in space in particular, that would go on, certainly, the highest level. The President and himself or herself the highest level of government to figure out the next steps and

what will be the action taken up at that point. And I would also say that not every action -- in other words, if it were a space attack, that doesn't mean that there has to be an equivalent attack. We have the full power of the federal government. There's other forms of military response. There's diplomatic responses. There's economic responses. Our job, in military, of course, would be to provide military options. But my point is the President would make that determination and the sole power of the government to include, I'm sure, international allies would be walked through and consulted.

MR. COLBY: I think you [inaudible] one of the questions we put up on the board was about how likely would it be in a major contingency with say Russia or China, which in some sense, you know, if we listen to the Deputy Secretary and the Secretary, you know, I think that sometimes it's a kind of pacing challenge the department seems to be trying to focus on and to deal with given the challenges to US conventional military advantage. And I'll be curious what people think. You know, I'll put my priorities on -- it seems to me if there were a reasonable contingency with one of those actors, it would be pretty likely that if not, it would escalate in to space.

I hear what you're saying about sort of, you know, constructed ambiguity in the sense that potential opponents need to, you know, they can't exactly calculate how we would respond. I guess the concern would be that if, you know, the old phrase, if space is something of an Achilles heel and, you know, we hear about exercising without all of the space services that people are trying to kind of minimize the downside consequences of losing access to space.

But I guess the question to me is, how credible do you think the US current policy on space is? I think you mentioned sort of we have a range of capabilities, kinetic and non-kinetic, and non-military. But is a potential adversary like China or Russia if they're in a like a place where they would want to use, you know, some kind of capability in space, are they going to find that credible response? I mean in some sense I feel like I don't -- it seems to me that the trouble with an ambiguity kind of policy is not so much that they don't understand it but that they may believe that it's really going to be executed back to them in a way that's costly enough given the old phrase that's satellites have no

mothers. I mean do you -- how do you kind of wrestle that?

SECRETARY JAMES: Well, I don't really see it in terms as a space deterrence policy. I see that we have the entirety of deterrence for the United States. And, again, it's a matter of military, economic, diplomatic with the full power of the United States behind it.

So all I can say is -- you just said it, and I'll repeat it. We're putting our money where our mouth is. We're investing mightily in these assets. These protections of these assets and not just in creating [inaudible] resiliency. Because that is part of the [inaudible] also, in situational awareness, specifically, so that you -- it's having your porch light on at night. It's having a surveillance camera at hand. And that way if somebody does something, you're going to know it because you're going to see it. And so, we are watching, that is the message in some of these new investments. And we are going to defend these assets, and if it is attributed, action will be taken. Again, it would be at the highest levels of government that this determination would be made. But if other countries are watching; number one, the fact that we are enabled by a foreign military as well as our modern way of life, so I would view this as important to us. We have messaged over and over again that we will defend our assets, and we're putting our money where our mouth is.

And then the last point is, we literally are shifting a culture in terms of how we think about space as a domain, a domain where if you need to operate perhaps in a degraded way. In a way we're maneuvering in different ways. And just if you think about the size of domain, [inaudible] we think the domain of the air, we are now exercising, we're experimenting. We have a new center, what we call the JICSpOC in Colorado Springs where we are sitting side by side for the first time with the intelligence community, the air space asset. We're getting in communicating, or I should say, working together in collaborative forms as we think these problems through.

So we are extremely serious about this. And anybody who thinks that we're not, would have a rude awakening if we were challenged.

MR. COLBY: Great. I wonder if maybe you could touch on this a little bit with resilience and the change in our culture. I wonder if you could maybe lay out, you know, given the sort of

clarion call, the problems the department's is thinking on? What kind of strategy for where we want our space kind of posture to be? If today, you know, the trend lines, those of you and your peers at the department, are not so great, I mean at least in terms of adversary capabilities and our reliance on space. Where do we want to get to in terms of our space architecture and its role in defense and intelligence posture? What's the overall policy?

SECRETARY JAMES: Well, we certainly want to be become more resilient in our overall architecture in space. And the resiliency can take on a number of fronts. So for example, there was a question of disaggregation. Do we want to have more satellites with more individual capabilities or do we want to continue down the road of having a fewer number of satellites that have lots of capabilities on them? So breaking up some of those satellites in to multiple capabilities, multiple satellites can be one form of resiliency.

Another form is looking at different orbits to use. Anything that would complicate a potential adversary thinking about how they might go up against you in the future, this adds to resiliency. Making satellites in the future that perhaps have more fuel, so that they can maneuver more, that might be another form of resiliency.

So all of these things are under review, and as a matter of fact, in my relatively new PDSA role, I'm responsible for actually chairing and driving the space SPR, which is the strategic portfolio review, which is a fancy way of saying that we the department on an annual basis, we take a look a look at certain of our portfolios and say okay, what do we think we need to do and what do we need to change over the next five years.

And so, resiliency is the key question that we're looking at to try to come to grips, particularly, to inform some of the major program decisions that we need to make in the not too distant future, like the future of SBIRs and the future of the AEHF. So resiliency is huge.

Another thing is tactics, techniques, and procedures. So this gets back to the people who really are the military personnel who not just operate the satellites but who think like a chess game, three or four steps ahead. If this, than what. Another thing is looking for better indications and

warnings, so that you can put together the pieces of the puzzle and know with greater certainty that something major is on the verge of happening and either get out of the way or take some other kind of defensive measures. Situational Awareness is key, and we're investing a lot of money in knowing what is going on in space and being able to monitor.

So these are some of the steps that we're taking. And when you add it all up, again, just in my short few years, I think there's a tremendous amount of momentum that has been achieved. And so, it will fall to me and to Secretary Carter and Deputy Secretary Work to the rest of us in the DoD who are working on these important space matters. But emphasize this to the incoming team and make sure that that momentum is not lost in the next administration.

MR. COLBY: Well, I think that's a crucial, crucial message also from that third offset vision as a whole.

I want to return to another aspect of this. I guess in your sort of PDSA hat, and I think, you know, there were report that we put out in January as sort of the last refuge of think tank scoundrels is to call for more thinking on a given subject. But that was sort of one of the takeaways, which I actually, you know, I sort of -- the message that we took, we took from a [inaudible] saying is that the department actually is looking for help thinking through some of these strategic questions. I think that this audience -- to the broader audience that is interested in space, what do you think are some of the key questions that you and your colleagues in the space enterprise at the department, DoD and so forth -- what do you -- what would you benefit from having help on? I mean what are the sort of, you know, key questions? Is it, you know, should we disaggregate nuclear from conventional? Is it -- should we, you know, thinking about the commercial side, what were some of those key questions that you would put out?

SECRETARY JAMES: Well, those are two good ones that you just said -- that you just threw out there, and I know you talked about a little bit about the disaggregation. But let's talk commercial for a moment. I'm just think that there is literally a renaissance going on in US industry -- let's go farther than that.

The international [inaudible] specially talk about US industry when it comes to the excitement and the investment and the business opportunities that the US industry is now seeing in space. And this goes from everything, you know, from space launch where we in DoD were coming out of a period where we had a monopoly by one company, which did a good job for us, but, you know, monopolies aren't always the best buy for the tax paper.

And now we're coming on that period of competition. And hats off to companies like SpaceX and Blue Origin who have invested in reusability, and they're actually demonstrating it. No doubt is going to advance the ball for all of us in terms of bringing down the cost over time for space launch.

And then there's all kinds of innovations as well in SATCOM approaches. So all kinds of innovation going on for us to figure out. We're already doing this, but I'm sure we could do better, how to leverage more of some of that ingenuity, some of what they're doing anyway in the commercial sector and how to leverage that for some of our needs. So I can see a future where we have more hosted payloads and things like this where we're leveraging more. Looking for more pathfinders to bring more pilot projects in experimentation. I think that is in the pathways for us in some of our space small sats. So it's another very exciting area. So to kind of help us figure out how to leverage that better.

Ditto on the international front. So we already have expanding partnerships on the international front. Figuring out different ways to share data among our international allies, particularly, if you get in to a fight where you can't share some of that situational awareness in terms of that intelligence that can present difficulties. And then I think another one that we all could perhaps think about a little bit more is given the relative speed with which some of these things can happen, are there ways to get some additional, say preapproved authorities to be able to act quickly if necessary. This is another area that I think we all could use some more thinking.

MR. COLBY: Yeah, on the international side, I think that's a particularly interesting area, and there's been some discussion recently. Is there a kind of view in vision to sort of let 100

flowers bloom and we'll kind of pick out what's useful or do you think that -- are you sort of more interested in kind of coordinated effort where you say, you know, Japan is much more active in space the EU or our NATO allies are very active ... Australia -- India. Is it -- are you thinking about a kind of a coordinative sort of international strategy or is it more sort of let's see what develops kind of incident?

SECRETARY JAMES: No, I'd say we're more coordinated in our approach, but then, oh by the way, things are developing. And as they develop, there may be opportunities for us to leverage as well. And I would say as a general proposition, we have done over time, the greatest amount of work in terms of information sharing as well as cost sharing with some of the 5 eyes countries. But of late, we have been expanding the aperture and creating other partnerships with some of the other governments to include Japan, you mentioned Japan a while ago.

So we would like to do more of that, not less of that. And I think -- so the other countries, particularly, when it comes to the cost sharing, view such partnerships as a way that they can get in on some of the information, some of the situational awareness, in particular, without taking on the cost of starting an entirely new enterprise on their own. And so, these partnerships, of course, are of mutual.

MR. COLBY: Yeah, I guess that another part of the logic is if they're wrapped up in us, there's a kind of deterrent effect with the internationalization of some our efforts. It's not like you just attacked the United States potentially you're attacking several countries.

SECRETARY JAMES: Right.

MR. COLBY: I think you mentioned the cultural issue. And I think in your tenure as Secretary, you know, you've been, you know, noted and I think applauded for trying to move Air Force culture in a number of fronts. I [inaudible]. You know, given the sort of pretty significant changes in the way that space is seen, the kind of demands that are being put on space, the threats in space, how are you thinking about kind of evolving the culture, especially, when you talk about some of this, you know, greater commercialization? It's not just a sort of Air Force and DoD in its own

silo. You know, we're going to want more interaction. How are you thinking about moving this sort of Air Force space culture and our view of the space culture, to adapt to that and take advantage of it?

SECRETARY JAMES: Well, on the operational side, I have to give enormous credit to General Hyten, who I think has really moved the needle substantially, again, in just a few short years. So he is reviewing the way the space operating forces literally do their work and making sure that our most experienced Airmen, for example, are not just instructors, but they're also operators. He's mixing up a new format that involves the space mission forces. I would mention the experimentation just practicing. We practice in every other domain. We have wargames and things of this nature. So we're going to do more practicing in the space domain in a simulated environment at some course. At some course.

And then shifting to the culture of the Pentagon. I'll give you one that I've really been briefing on a daily basis. When I first became the Secretary of the Air Force, I was also dual-hatted as something called the Executive Agent for Space. And I thought ah-ha, let's see what this is all about. So what the executive agent for space was is a coordinating function. I chaired something some of you will call the Defense Space Council, which had limits in memberships of other people, largely in the DoD plus the NRO, who had some sort of space investments and space equity. And we literally were a discussion body and the Navy said "X" and the Army said "Y" and the Air Force believed in "ABC", all of this would get reported up the chain. And the best that I can tell, there wasn't a huge degree of impact there.

Now, under the principle defense space advisor approach, it's a little bit different. It's actually quite different. So now it's not just a consultative, everybody gets their say. Yes, we still discuss, but then I have a direct seat, and independent seat and an independent voice of all the major decision making bodies. Like the DMAG where we talk about the next year's budget decisions and the next year's programs. Like the interagency at the White House. All these different places. The requirements. The JROC. So now there's an independent space voice, which is an advocate for space.

So that is a big supplement, and I think it's been a big step forward to make sure there is that top advocate in place. And, again, not credit to me, it's a team effort. But billions of dollars have shifted. So there's nothing like putting your money where your mouth is, and that's just reflective of how important space is. So that too is a culture change within the walls of the Pentagon.

MR. COLBY: One sort of -- you were speaking briefly about this before back at the beginning of the panel, but our arms control and not just necessarily a freaky formal arms control tax. But even sort of stability discussions with Russia are pretty frozen, I guess you could say and China are pretty immature or stalled -- choose your term. I was wondering if you could sort of give your thoughts on the prospect for arms control in space. I mean one of the things that, you know, I feel a little counter sort of cyclical on this, but I do think arms control and stability, you know, of a different kind than we've experienced in the last 10 or 15 years, but arms control and stability have actually become more relevant because you're, you know, unfortunately, we are in a position where we might actually come to blows with very serious potential in the near years. And it seems like space is an area where that's pretty bright miscalculation. There's, you know, public record [inaudible]. Do you see a prospect for arms control or any kind of stability discussion with Russians or Chinese? Has anything happened so far? And, you know, is there some kind of even implicit sort of rules of the road that we could come up with the Russians or the Chinese or are we kind of talking back to each other and sort of, you know, just two blind people in the dark?

SECRETARY JAMES: So just a personal opinion if I might. I'm one who believes the in the treaty -- the international agreement. So often I think we're quick to say well, this didn't work or somebody cheated on that. But from what of our international affairs have run and run well on the basis of treaties and international agreements. So the general proposition -- if you can get one, that's a good thing.

My second comment is the State Department, of course, has the lead when it comes to negotiation of such matters on the international front. We, the Department of Defense, we are supporting the State Department in these efforts. So with that prelude, let me just say that there has

been a couple of proposals put forth in the last several years by Russia and China, which we, the United States Government, felt were too vague and essentially would not be in our best interests. So we were not in favor of those proposals.

But, certainly, we at DoD regularly talk to the State Department, and we indicate that there are certain principles that any future agreement that we feel that these principles are key and we want to see these principles reflected. And now they're going forward and they're doing their best to see what might be done in this arena.

So principle number one for space-faring nations ought to be that debris is bad. Three words - debris is bad. Really bad. Really bad. Which means you might -- well it means you must -- you must minimize it, right. So there's no perfection in life, but you should take action -- responsible action and minimize debris.

So go back to the year 2007 when China tested that direct-ASAT capability and blew up one of its own satellites. That action created thousands of pieces of debris. And even things that are that small can do damage when they're going at high speeds in orbits. And those pieces of debris are going to be there for decades to come.

Now, if you contrast that experience to an experience the United States had where we had a satellite, which was in danger of essentially -- people and locations on earth, and something had to be done about it. Well, we planned it meticulously for months before we executed on that. And when we took that satellite out, we took it out at the lowest orbit point where we knew and could calculate that the debris that it caused would come out of the atmosphere quite quickly, within a year if memory serves. So the point is, there are ways to do things responsibly and to minimize debris, and then there is the other way. So debris is bad.

Number two, we, the United States, always reserve the right of self-defense. So any sort of agreement, the words of that, could not be construed, we would not agree with it if they construed it. Somehow we would be hampered in our own self-defense.

And number three, any kind of agreement needs to be verifiable. If you put words on a piece

of paper, which you can't verify, then it's not worth much more than piece of paper.

And so, those are three principles and norms that you want to follow, that we always advocate like any State Department treaty.

MR. COLBY: One question I think relates to this, and it's a little bit philosophical, but I think it's an interesting -- I think it all fits in here and in some sense, it's kind of a central one because I think as you mentioned earlier, you know, it's an exaggeration to say that space was never a sanctuary. But in the cold war, there was a perception that a conflict that's in space can be part of a general and kind nuclear war. And then after that, you know, there was a period where there weren't really too many concrete ASAT threats or even -- or nonkinetic threats to our space architecture. I think one of the kind of key debates that's happening in the space world is can we get back to a point where the US space architecture is effectively invulnerable or do we need to look to a future in which space is going to be a domain like maybe the air domain and the maritime domain where we need to fight to establish dominance. So I think those take a fundamentally different direction. Do you think you can establish space dominance in your strategy and your resourcing and your arms [inaudible]? They're going to say hey, I don't want the other guy to have any capability, et cetera, et cetera. Whereas if you're dealing with vulnerability, I think you're going to go more towards a limited war model and escalation and these kinds of things. And just based on your sense of the overall picture of both and red, if you will, what's your sense of what's kind of a realistic future for us to deal with?

SECRETARY JAMES: In my opinion, there is nothing from a military prospective that is 100 percent invulnerable. There's always vulnerabilities. The old saying, the enemy gets a vote. So every time we do one thing, you know, the enemy gets a vote. They're also thinking. They're also trying to [inaudible]. Strategy attack perspective, techniques, tactics, procedures. It's some sort of [10:59;21] investment. They're also looking at different types of approaches.

So there is nothing invulnerable. And I think this is going to continue to, just like I think the air domain, cyber domain -- all of these domains are [inaudible]. And I also want to say lord knows, we don't want to pick a fight with anybody. We don't want to have a war in space. I was watching the

trend. The trend is, I think, from your first chart there. It seems to be a high probability to most people. A high probability perhaps, but still, I have hope that it wouldn't come to that because it could be very, very destructive. And nobody wants that. Nobody.

MR. COLBY: I guess the final question, and maybe we can flash the results up on the screen as we go, but -- conflict is already happening. [referencing question on screen] What is your, you know, thinking about the next administration and these conflicts? Do you have, you know, an agenda for the next administration? What is your -- what would be your kind of key messages to the next administration about what we need to bring forward in the space domain? What are these kind of prime programs or service initiatives as you go forth?

SECRETARY JAMES: Well, from an investment standpoint, I would put space situational awareness very much at the top of my list. So this is everything from a space fence -- all these things are in development, that I'm mentioning now. But if they were suddenly truncated or cut off in some major way, that would be a reversal in terms of direction. So the space fence will provide us the ability to see many, many more objects and much smaller objects. So that's crucial. We have a program called GSAAP. So to keep that going, that's what we call our neighborhood watch in the neighborhood of geo. Like I said, if you know who's doing what, perhaps the [inaudible] might not do something after all. So it's that kind of situation. So I would put that at the top of our budgetary [inaudible]. I can't overemphasize enough the cultural aspects and continuing to do the exercises; the wargames, the simulation, so that we get our people and our tactics, techniques, and procedures geared toward the fact that we may well have to maneuver differently. We may well have to defend ourselves in a way that perhaps 10 or 15 years ago just didn't occur to us. So that culture change for the people and for the approach, it's absolutely crucial that we do that. And I think it's also continued to -- it's important that we continue to work with our allies with the commercial partners, really everything that we talked about here are items that I intend to at least bring to the attention of the next team as we talk about space.

MR. COLBY: Great. Well, we are on a pretty tight 1 o'clock terminus, so because we

have the Vice President coming in next. So I ask you to join me in thanking Secretary James for her very [inaudible] [Applause]. We can let the Secretary out first. But thank you very much for coming and [inaudible].

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